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THE NEW ENGLAND BOTANICAL CLUB

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A NEW ARABIS.

E. B. HARGER.

IN the spring of 1907 I found an *Arabis*, which was not familiar to me. It was growing on a trap ridge in Southbury, Connecticut, and from its habit as well as its erect young pods I took it at first to be *A. Drummondii* Gray, but was puzzled by some unusual features. Later collections showed the pods spreading or recurving, with seeds similar to those of *A. laevigata* (Muhl.) Poir. I soon learned from Dr. E. H. Eames that he had collected the vernal state of the same plant in a similar situation in the adjoining town of Woodbury and that he also had taken it for *A. Drummondii*. Then Mr. C. A. Weatherby reported collecting at Bolton, Connecticut, further specimens of the same form which, on comparison at the Gray Herbarium, he found to match material there included under *A. laevigata*.

I continued to observe my plant only to be more and more convinced that it was distinct from what I had known as *Arabis laevigata*, and a visit to the Gray Herbarium showed that the two forms were well represented there and were separated by marked and constant characters.

The new plant is bright green and very leafy, averaging in the specimens examined 28 internodes to the first flower. Some or usually all of the lower leaves are deeply lyrate-pinnatifid and the flowers are white with conspicuous petals and on erect pedicels.

Arabis laevigata is less leafy, averaging 13 internodes to the first flower, is strongly glaucous and very rarely has any pinnatifid lower leaves. Its flowers are borne on diverging pedicels and the petals scarcely exceed the calyx. One of the most marked differences between the two plants, and one which appears to be constant, is

NOTES ON CONNECTICUT MOSSES,— II.

G. E. NICHOLS.

DURING the past year the number of mosses known to occur in Connecticut has been very considerably increased. As will be seen from the remarks in the body of the present paper these additions are due partly to a more critical examination of material already at hand. But the majority are the result of recent collections. The region about Salisbury has proven especially fruitful, and will repay more thorough exploration. Salisbury is situated in the northwestern corner of Connecticut and, in addition to including the highest elevations, it contains one of the few, and perhaps the richest of the limestone areas in the state. There are many localities in this town which are of particular interest to a bryologist. Among these are Bingham Swamp, a typical mountain Sphagnum bog with its central pond and enveloping spruce forest; Bear Mountain, altitude 2350 feet, together with the adjacent rocky slopes and brook beds; Sage's Ravine; the region below the falls of the Housatonic River at Falls Village; the "Wolf Den," a moist limestone ravine; Beaver Dam Swamp, an extensive, well wooded, calcareous area; and the marly swamps bordering the Twin Lakes. Up to the present writing no less than eighteen species of hepatics and mosses are known from no stations in the state outside of Salisbury. Another locality worthy of mention is the Chamaecyparis swamp at Stafford, which is unusually rich in northern forms and affords the only known Connecticut station for a number of interesting species.

The ten species discussed on the following pages are all new to Connecticut. One is new to New England.

DICRANUM SABULETORUM Ren. & Card. (*D. pallidum* Br. & Sch., not C. Müll. *D. spurium* var. *condensatum* Lesq. & James, not *D. condensatum* Hedw.) On a rock near the shore, New Haven (J. A. Allen, 1881). Determined by Prof. O. D. Allen, and verified by Dr. A. J. Grout. Recorded also from Maine (Rand), and Massachusetts (Miss Clarke, *vide* Grout). By some authors this species has been considered merely a variety of *D. spurium*, and Allen's specimens are cited under this name in the Bryophytes of Connecticut.¹ Al-

¹ Evans, A. W., and Nichols, G. E. Conn. Geol. and Nat. Hist. Surv. Bull. 11. 100. 1908.

though recognized by Bruch and Schimper¹ and the Lesquereux and James Manual² the first full account of this plant is given by Renauld and Cardot.³ These authors show that the name *D. condensatum* Hedw., by which the species has frequently been designated, cannot be retained, since upon examination the material on which Hedwig's observations⁴ were based was found to consist of three distinct species: *D. scoparium* forma, *D. Muhlenbeckii* (?), and *D. sabuletorum*. Both his description and figures, however, apply to the two species first mentioned, and not at all to the last. It is obvious that Hedwig had at best but a vague idea of the present species. Bruch and Schimper, in an incidental note, mention "*D. pallidum*" as a species closely resembling *D. Muhlenbeckii*, but no description is given. *D. sabuletorum* differs from *D. spurium* principally in its narrower leaves, which are smooth or only slightly papillose and not undulate. It ranges from Newfoundland and Ontario to the Gulf States, being more common southward. Although usually restricted to low, sandy coastal regions, it has been collected as far inland as Wisconsin (True) and Missouri (Bush). The spores mature in spring.

DICRANUM MUHLENBECKII Br. & Sch. On rocks, earth, and old logs, usually in elevated regions. Collected on West Rock, New Haven, by Prof. O. D. Allen (1879). Determined by Dr. A. J. Grout. Known also from Vermont (Eggleston). As already noted, this species bears a strong likeness to *D. sabuletorum*. Both grow in more or less compact tufts. *D. Muhlenbeckii* may be distinguished by the less strongly porose walls of the upper leaf cells and the smooth leaves, as well as by the season of fruiting—the spores mature in August or September. The West Rock specimens are sterile, but it fruits copiously in certain localities. It is widely distributed throughout northern North America, from Quebec to Yukon Territory, extending south to Alabama and New Mexico; more common westward; Europe; Asia.

The only Connecticut *Dicranum* thus far recorded with which the two species above listed might be confused is *D. scoparium*. In this species the leaves are usually secund and the upper leaf cells are elongated, while in both *D. sabuletorum* and *D. Muhlenbeckii* the leaves are

¹ Bryologia Europea 1: 39. 1836–1851.

² Mosses of North America. 76. 1884.

³ Bot. Gaz. 14: 91, 92. pl. 12 A. 1889; Rev. Bryol. 16: 10, 11. 1889. See also Cardot, Bull. Herb. Boissier 7: 308–311. 1899.

⁴ Species Muscorum 1: 139. pl. 34. 1801.

equally spreading and the upper leaf cells are approximately isodiametric.

DICRANUM DRUMMONDII C. Müll. On the ground in a mountain spruce swamp, altitude 1900 feet, Salisbury (G. E. N., 1910). Has been collected also in Maine (J. A. Allen, etc.), New Hampshire (D. C. Eaton), and Massachusetts (E. Faxon). *D. Drummondii* bears a superficial resemblance to *D. undulatum* and is doubtless often wrongly referred to that species. The two grow in similar localities. In *D. undulatum*, however, the leaves are equally spreading or only slightly secund, and the upper leaf cells are considerably elongated with porose walls. In *D. Drummondii* the leaves are strongly falcate-secund, and the upper leaf cells are mostly quadrate with non-porose walls. This species ranges from Prince Edward Island to New Jersey, and westward to the eastern slopes of the Rocky Mountains; more abundant eastward. The capsules mature in summer.

DICRANUM VIRIDE (Sull. & Lesq.) Lindb. On a fallen log in a white cedar swamp, altitude 700 feet, Stafford (G. E. N., 1910). Reported from all of the New England states except Rhode Island. Although it almost never produces fruit, *D. viride* is able to multiply rapidly by means of "Bruchblätter." The plants occur in loose tufts, their leaves spreading out straight and stiff in all directions from the stem. During the growing season the younger leaves ordinarily remain intact, but a light touch of the finger is sufficient to cause their slender, brittle apices to break squarely off. Under natural conditions the breaking off is doubtless effected through the agency of animals, or by the fall of leaves, twigs, heavy drops of rain, and snow. This peculiarity, which is shared by no other eastern *Dicranum*,¹ is a character by which the species may be easily recognized. The habitat given above is typical. In general it should be looked for in deep, moist woods, on the trunks and bases of trees, or on logs. The writer has occasionally observed it growing upon non-calcareous rocks. In eastern North America *D. viride* ranges from Newfoundland to Georgia and Minnesota. It is also reported from Alberta and Washington, and is common to both Europe and Asia. Accord-

¹ According to Limpricht (Laubmoose 1: 370. 1890) *D. fulvum* likewise has brittle leaves. Correns (Vermehrung d. Laubm. 17. 1899), however, is unable to confirm Limpricht's observations to any marked extent on fresh material, although he finds occasional broken leaves, especially in the older parts of the plant.

ing to True ¹ it seems to be replaced in the West by *D. strictum* Schleich.

FUNARIA FLAVICANS Michx. Grassy ground along a brook, Glastonbury (Miss Frances Wilson, 1892). The writer's determination has been verified by Mr. R. S. Williams. New to New England. It is not always easy to differentiate between this species and the common *F. hygrometrica*. Mr. Williams ² states that it may be distinguished "by the average smaller size, erect pedicel, more pointed leaves, as well as the less furrowed capsule, which matures a week or two earlier — in June — than in *F. hygrometrica*." *F. flavicans* is an essentially southern species. It has been collected in practically all of the states bordering on the coast from Connecticut to Florida, and ranges westward to Wyoming, Utah, and Arizona. The present station represents an extension in its known distribution northward of about fifty, eastward of about one hundred miles.

RACOMITRIUM FASCICULARE (Schräd.) Brid. Steep, gneissoid rocks in the bed of a mountain brook, altitude 2000 feet, Salisbury (G. E. N., 1910). Recorded from all of the New England States except Rhode Island. In this case it grows associated with *R. aciculare*, our only other Connecticut species of the genus. In the field it is easily separated from this by its more prostrate habit, dirty, yellowish green color, and the more slender branches beset with numerous very short lateral branchlets. *R. fasciculare* is distributed throughout northern North America, extending south to Virginia, Minnesota, and Montana; Europe; Asia. The capsules ripen in spring.

LESKEA GRACILESCENS Hedw. On decaying wood, tree trunks, stones, and the ground. Woodbury (Eaton), Putnam (A. H. Graves and E. C. Miller), Hamden (O. D. Allen), New Haven (Kleeberger, 1874), North Haven (G. E. N.), New London (Spaulding). The North American species of *Leskea* have been carefully revised by Dr. G. N. Best ³ to whom the writer is greatly indebted for the determination of a large amount of Connecticut material of this genus recently submitted to him for examination. The majority of the specimens quoted above have heretofore been included under either *L. obscura* ⁴ or *L. polycarpa*. According to Dr. Best *L. gracilescens* is also known from Vermont and Massachusetts and is doubtless quite common in the southern portion of New England. This species is

¹ Bryologist 2 : 26. 1899.

² Bryologist 4 : 9, 10. 1901.

³ Bull. Torr. Bot. Club 30 : 463-482. pls. 15, 16. 1903.

⁴ Connecticut material distributed under this name by Grout, N. Amer. Musci Pleuro. Exsic., No. 331, should be referred to *L. gracilescens* (fide Best).

intermediate between *L. polycarpa* and *L. obscura*, in some of its forms approaching the former, in others the latter, but can hardly be included under either as a variety. From *L. polycarpa*, according to Best, "it differs by its smaller, straight leaves which are shorter and comparatively broader, usually gradually acute and blunt pointed, and by its shorter, often imperfect segments." From *L. obscura* it may be distinguished by its thinner-textured, symmetric leaves which are lightly biplicate and often revolute at the margins. It is widely distributed, ranging throughout the United States east of the Rocky Mountains, but is rare in Canada and in the Southern States. The spores mature in summer.

AMBLYSTEGIUM VACILLANS Sull. Attached to rocks, usually submerged, in a rapid brook, Hamden (1909) and New Haven¹ (G. E. N.). Determination confirmed by Dr. Grout. The type locality for this species is the White mountains, New Hampshire, where it was collected by Oakes. It is also recorded from Vermont (Grout). *A. vacillans* has the habit and general appearance of *A. riparium* to which it is closely related. It may be identified by the usually obtuse tips of the leaves, which have short, frequently irregular cells in the apical region. The range of this species is certainly more extensive than the small number of localities from which it has been reported would seem to indicate. Outside of New England it is definitely known only from Ontario and New Jersey. Doubtless, as in the present case, it is often collected for *A. riparium* and not examined with sufficient care. The writer ventures the opinion that if all herbarium material bearing the label "*A. riparium*" be reëxamined our knowledge concerning the distribution of *A. vacillans* will be considerably increased. Since it usually seems to be regarded as a subalpine plant it is of interest to note that the New Haven station is less than ten feet above tide water.

CALLIERGON TRIFARIUM (Web. F. & Mohr) Kindb. Partly submerged in an open, marly swamp at the margin of Twin Lakes, altitude 750 feet, Salisbury² (G. E. N., 1910). The only New England station previously described is at Crystal, Aroostook County, Maine, where it was collected by Prof. and Mrs. M. L. Fernald.³ This moss

¹ Material from this station has been supplied to Dr. Grout for distribution in N. Amer. Musci Pleuro. Exsic.

² Distributed by Grout, N. Amer. Musci Pleuro. Exsic., No. 350.

³ See Collins, RHODORA 10 : 37, 38. 1908.

is of peculiar interest since, notwithstanding its relatively large size and distinctive appearance, it has been very infrequently collected on this continent. Aside from the two stations noted the only American localities from which it is known are the Gaspé peninsula, Quebec (J. F. Collins), the region bordering Lakes Huron and Ontario — in Bruce and Prince Edward Counties, Ontario (Macoun) and near Sandusky, Ohio (Lesquereux) —, and British Columbia (Macoun). It also occurs in Greenland and is widely distributed in northern Europe and Asia. Its apparent rarity in North America may be ascribed partly to the fact already suggested by Collins that the plants seldom form large mats, but usually occur singly or in small tufts intermixed with other species. In the Salisbury station, however, although associated with other mosses, *C. trifarium* forms almost pure colonies of considerable size. It seems very probable that this is one of those forms like *Anacamptodon splachnoides* which, although widely scattered, is of extremely local occurrence. The frequent association of *C. trifarium* with *Drepanocladus scorpioides* has been referred to by Warnstorf¹ and Collins. In the present station also these two species grow together, forming loose mats in the wetter parts of the swamp amid a rank growth of sedges. The only other companion moss in the immediate vicinity is *Chrysohypnum protensum*. The Sphagnums are conspicuous by their absence.

Since *Calliergon trifarium* is not referred to in Grout's recent Manual,² a brief description is here given. The moss resembles somewhat a very robust *Philonotis*. The plants are golden-yellow above and glossy when dry, dark brown below. Stem rigid, erect or prostrate, simple or very sparingly branched, often 10–15 cm. or more in length. Leaves loosely imbricated, very concave, broadly ovate to suborbicular, entire, and very obtuse; nerve slender, usually simple and disappearing above the middle, rarely short and double; basal cells large, mostly hyaline, and not forming a sharply defined group at the angles. Dioicous. Fruit rare, maturing in early summer.

DREpanocladus scorpioides (L.) Warnst. With the preceding, Salisbury³ (G. E. N., 1910). Reported also from Maine (Fernald), New Hampshire (Miss Lorenz), and Vermont (E. Faxon). This is

¹ Kryptogamenfl. d. Mark Brandenburg 2: 988. 1906.

² Mosses with Hand Lens and Microscope. New York. 1903–1910.

³ Distributed by Grout, N. Amer. Musci Pleuro. Exsic., No. 349.

one of the largest of the hypnoid mosses and is not likely to be mistaken for any other species. It ranges throughout northern North America, extending south to northern Connecticut and Ohio, Michigan, and Montana; Greenland; Europe; Asia. Fruit rare, maturing in summer.

In a previous paper¹ the writer has discussed the occurrence of *Philonotis caespitosa* in this state. Recently there has appeared Dismier's revision of the American species of the genus² in which two new varieties of this variable species are described,—var. *compacta* and var. *heterophylla*. The former is quoted from Connecticut only—Hamden and Ledyard (G. E. N.). No localities are given for var. *heterophylla*. It should be cited from Connecticut—Huntington (G. E. N.)—and Colorado (Holzinger). Var. *laxa* (Warnst.) Loeske & Warnst. is also credited to Connecticut—Easton (Eames).

The following additional localities for species heretofore recorded from but one Connecticut station should be noted: *Nanomitrium Austini*, Windsor and Stafford (G. E. N.); *Barbula fallax*, North Haven³ (G. E. N.); *Orthotrichum pumilum*, Vernon (Miss Lorenz); *Pterigynandrum filiforme*, Meriden and Woodbridge (G. E. N.); *Camptothecium nitens*, Brookfield (A. W. Evans and Miss Lorenz); *Rhytidiadelphus squarrosus*, Stafford (G. E. N.); *Polytrichum alpinum*, Stafford (G. E. N.); *Polytrichum strictum*, Putnam (A. H. Graves and E. C. Miller).

Two incidental observations may be of interest, since they concern Connecticut species. The first has to do with the habitat of *Drummondia clavellata*. Ordinarily this is regarded as a form which grows exclusively on the bark of trees. Consequently the writer was quite surprised during the past spring to find a mat of this plant flourishing luxuriantly on a dry limestone boulder in an old stone wall. The second note concerns the distribution of *Anacamptodon splachnoides*. Until recently this moss has not been reported north of Maine. It was collected, however, by the writer in the summer of 1909 near Indian Brook, Cape Breton Island, Nova Scotia—a little patch no larger than a five cent piece, in full fruit, growing in a knot-hole of *Betula lutea*.

YALE UNIVERSITY.

¹ RHODORA 12 : 152. 1910.

² Bull. Soc. Bot. France, Mem. 17: 1-37. 1910.

³ Distributed by Holzinger, Musci Acro. Bor.-Amer. Exsic., No. 254.

see XIV. 52 (1912).

THE VARIATIONS OF *LATHYRUS PALUSTRIS* IN EASTERN AMERICA.

M. L. FERNALD.

THE circumpolar *Lathyrus palustris* L. has long been very perplexing to the student of systematic and geographic botany. As represented in many regions it occurs in two or more forms which by some authors have been treated as varieties, by others as distinct species. Torrey & Gray, for instance, recognized in America seven pronounced variations of *L. palustris*, besides *L. myrtifolius* Muhl. which was afterward treated, by Dr. Gray at least, as a variety of *L. palustris*.

In eastern America there are three primary variations of *L. palustris*. One, a plant of comparatively coarse habit, varies from 5 (rarely only 3)–12, averaging 7 dm. in height, has coarse glabrous ordinarily more or less winged stems, excluding the wings 1.5–3 (averaging 1.8) mm. in diameter below the lowest peduncle; 2–5 pairs of elliptic to broadly lanceolate or oblanceolate glabrous leaflets 3–8.5 cm. long, and 3–5 (rarely 8) large purple flowers 1.6–2.5 cm. long. This plant in its chief characters matches Old World material of *L. palustris* and is the form taken by Seringe, Reichenbach, Rouy & Foucaud, Ascherson & Graebner, and other critical students of the European flora as true *L. palustris* (var. *genuinus* Grenier & Godron; var. *latifolius* Lambertye).

The second striking variation of *L. palustris* is a much smaller plant with the low glabrous slightly winged or wingless stems 1–6 (rarely 8) dm., averaging 3.7 dm., high, and below the lowest peduncle only 0.5–1.5 (average 0.9) mm. in diameter. This plant has ordinarily 2 or 3 (rarely 4 or 5) pairs of linear or lanceolate glabrous leaflets, and its 2–5 flowers are about 1.5 cm. long. This, as shown by comparison with Seringe's material in the DeCandolle Herbarium at Geneva, is *L. palustris*, var. *linearifolius* Seringe (*L. viciaeformis* Wallr.).

The third primary variation of *L. palustris* is var. *myrtifolius* (Muhl.) Gray, by some authors treated as a species, *L. myrtifolius* Muhl. In this extreme the stems are as slender as in var. *linearifolius* and commonly wingless, but as tall as in typical *L. palustris*; the 2 or 3 pairs of elliptical to broadly lanceolate leaflets are mostly

2-4 cm. long; and the 3-9 flowers are as small as in var. *linearifolius* or even smaller (1-1.5 cm. long). Although var. *myrtifolius* is specifically separated by some authors from *L. palustris* by its wingless stems, shorter leaflets and smaller flowers, these are all characters which are so subject to variation that no one of them alone is constant enough for diagnostic use. The nearly wingless stem of var. *myrtifolius*, though a reasonably good character when taken in connection with the other points, occurs also in numerous specimens with the low stature and elongate linear-lanceolate leaflets of var. *linearifolius* and even in the coarser larger-flowered *L. palustris* itself. In fact, the pubescent extreme of the large-flowered *L. palustris*, which commonly has the stem somewhat winged, was treated by the late Theodore G. White in his *Revision of the Genus Lathyrus*¹ as a variety of the "wingless"-stemmed *L. myrtifolius*, his *L. myrtifolius macranthus*, having the "flowers large (2-2.5 cm. long)" and thus clearly opposed to the statement in his key that *L. myrtifolius* has the "flowers less than 1-5 [1.5] cm. long."

Not only do the flowers vary in size and the stems in stoutness and the degree to which the wings are developed, but the number, outline, and length of the leaflets are perplexingly variable, so that, as already stated, no one of these characters can be relied upon to distinguish *L. myrtifolius* as a species; but an examination of nearly 200 American specimens of the group has shown that, though none of these characters can be taken as final, they do occur in combinations which taken together mark off some very well defined varieties. Three of these varieties are characterized above. A fourth, var. *pilosus* (Cham.) Ledeb. was taken up in the 7th edition of Gray's Manual as a plant resembling typical *L. palustris* in stature, foliage, and large flowers, but differing in being pubescent. This large-flowered plant with large usually broad leaflets, the *L. myrtifolius*, var. *macranthus* of White, was identified during the revision of the Manual by comparison with Asiatic material labeled *L. palustris*, var. *pilosus* and with the figure so called in Reichenbach's *Icones Florae Germanicae* (xxii. t. mmclvii, fig. v). But subsequently a difficulty has arisen through the discovery that much of the plant referred in the Manual to var. *linearifolius* is quite as pilose as the coarser plant taken to be var. *pilosus*; and examination of the original description of *L. pilosus*

¹ T. G. White, Bull. Torr. Bot. Cl. xxi. 444-458 (1894).

Chamisso, upon which Ledebour based his var. *pilosus*, shows that he had, not the plant with broad leaflets which has been generally identified with var. *pilosus*, but the pubescent extreme of var. *linearifolius*. Chamisso's description reads:

"*LATHYRUS PILOSUS* n. sp. Proximus *palustri*, gracilior tenuiorque, et omnium partium, praeter corollas glabras et forse legumen deficiens, pilositate diversus.—Pilosus, caule gracili tetragono bialato ad nodos haud flexuoso, foliis 2-4-jugis, foliolis linearibus," etc.¹

Chamisso's plant was from "portum Petro-Pauli Kamtschatcae," and it is interesting to find that material from Petropaulovskii, Kamchatka, and from Amur, Manchuria and Japan differs consistently from the European var. *linearifolius* in being pubescent, and that this pubescent Kamchatkan plant extends across to Alaska and down the Pacific coast at least to Oregon. On the Atlantic coast it is the common slender plant of meadows and damp or even dry situations (often brackish) from Labrador to Connecticut.

The var. *linearifolius* as treated in the 7th edition of Gray's Manual contained not only the slender pubescent plant with linear or lanceolate leaves (the plant just shown to be the true var. *pilosus*) but also a glabrous plant which, upon further comparison, the writer is unable to distinguish from the true glabrous var. *linearifolius* of Seringe. As represented in the Gray Herbarium, the glabrous var. *linearifolius* seems to be confined in America to the St. Lawrence Basin and adjacent territory, occurring from Minnesota and western Ontario to the vicinity of Quebec.

The large plant, which in the Manual is called var. *pilosus* and which has been passing both in Asia and Europe under that name, stands to typical *L. palustris* in the same relation as does true var. *pilosus* to var. *linearifolius*. The large pubescent plant is as tall and coarse as true *L. palustris*, has similar foliage and large flowers and differs from it only in the pubescent stems, leaves, calyx, and pods. This was the *L. palustris* η of Torrey & Gray, recently redescribed as *L. myrtifolius macranthus* White, from Lubec, Maine. In Mr. White's characterization emphasis is put upon the wingless stem, but this character is not a constant one, as shown by other pubescent plants with broad leaflets and large flowers from the coast of Maine and the Maritime Provinces. This large plant, Mr. White's *L. myrtifolius*

¹ Cham. *Linnaea*, vi. 548 (1831).

macranthus, is frequent in rich gravelly thickets along the coast from the lower St. Lawrence and western Newfoundland to York County, Maine, extending up the St. Lawrence system to Michigan; and, like var. *pilosus*, it reappears on the Pacific coast from Oregon to Alaska, crossing thence to eastern Asia, where it occurs at least in Amur, Manchuria, and Japan. In Germany an extreme of *L. palustris* has been reported under the name var. *pilosus* as "selten," but judging from the illustration given by Reichenbach the plant which reaches Germany is nearer the broad-leaved plant here under discussion, and, as far as the writer can find, this plant has no name except that given it by Mr. White under *L. myrtifolius*.

The conclusions reached in this study may be summarized in the following synopsis.

* Plant comparatively stout, the winged or sometimes wingless stem 5 (rarely only 3)–12 dm. high, excluding the wings 1.5–3 mm. in diameter below the lowest peduncle: the middle leaves with 2–5 pairs of elliptic to lanceolate or oblanceolate leaflets 3–8.5 cm. long and 7–23 mm. wide: peduncles 3–5 (rarely 8)–flowered: flowers 1.5–2.5 cm. long.

L. PALUSTRIS L. Stems, leaves, etc., glabrous.—Sp. Pl. 733 (1753).—Lower St. Lawrence River, Quebec, to Manitoba, south to York County, Maine, Lake Champlain, Vermont, northern and western New York, northern Ohio, Illinois, and Wisconsin; Oregon; also Eurasia. The following eastern specimens are considered typical. QUEBEC: St. Lawrence River, below Quebec, July 9, 1905, *J. R. Churchill*. MAINE: Van Buren, 1881, *Kate Furbish*; gravelly shore of Aroostook River, Fort Fairfield, Sept. 9, 1896, and Masardis, Sept. 8, 1897, *Fernald*; river-thicket, Presque Isle, July 14, 1902, *Williams, Collins and Fernald*; margin of Meduxnekeag River, Houlton, Aug. 12, 1909, *Fernald*, no. 1956; low thicket back of Wells Beach, July 22, 1898, *Kate Furbish*, July 23, 1898, *Fernald*; Ogunquit Beach, Wells, June, 1898, *Kate Furbish*. VERMONT: Garden Island, Lake Champlain, June 7, 1881, *E. & C. E. Faxon*; lake shore, North Hero, August 20, 1904, *E. Brainerd*. NEW YORK: Niagara Falls, 1821, Torr. & Gray Fl. OHIO: Huron River, Erie County, May 31, 1895, *E. L. Moseley*. WISCONSIN: Milwaukee, *Lapham*. ILLINOIS: Chicago, *Babcock*. ONTARIO: Michipicoten River, *Loring*. MANITOBA: Brandon, July 18, 1896, *J. Macoun*, no. 12,528.

Var. *macranthus* (T. G. White) n. comb. Similar, but stem, leaves, calyces and pods finely pubescent.—*L. palustris* η , Torr. & Gray, Fl. i. 276 (1838). *L. myrtifolius macranthus* T. G. White, Bull. Torr. Bot. Cl. xxi. 448 (1894). *L. palustris*, var. *pilosus* of various authors, not Ledeb.—Lower St. Lawrence River, Quebec, and western Newfoundland to York County, Maine, west chiefly along the

*made L. macranthus (White) Rydb.
Brittonia 1: 92. 1931. no discussion*

Great Lakes to Michigan; Alaska to Oregon; also eastern Asia and apparently rarely in Europe. Among the eastern American specimens examined the following are characteristic. NEWFOUNDLAND: Chimney Cove, north of Bay of Islands, 1893, *Waghorne*. QUEBEC: rich gravelly thicket by the River St. Lawrence, Rivière du Loup, August 3, 1902, *Williams & Fernald*; between Baldé and the Baie des Chaleurs, Bonaventure River, August 5-8, 1904, *Collins, Fernald & Pease*. NOVA SCOTIA: damp soil near edge of pond, near Pictou, July 12-18, 1901, *Howe & Lang*, no. 470; Sable Island, August 3, 1899, *J. Macoun*, no. 21,195. MAINE: Low ground, Cutler, July 3, 1902, *Kennedy* and others; Wells Beach, Wells, July 28, 1890, *Kate Furbish*. NEW YORK: edge of woods, Murray Island, Jefferson County, July 4, 1902, *Robinson & Maxon*, no. 95. MICHIGAN: near Alpena, July 13, 1895, *C. F. Wheeler*.

* * Plant comparatively slender, the winged or wingless stem 1-6 (very rarely 8) dm. high, 0.5-1.5 mm. in diameter below the lowest peduncle: the middle leaves with 2 or 3 (rarely 4 or 5) pairs of linear, lanceolate or narrowly oblong leaflets 2.5 (rarely only 1.5)-5.5 cm. long and 1.5-9 mm. wide: peduncles 2-5-flowered: flowers 1.3-1.8 cm. long. (Commonly well marked plants, but in their coarser and larger-leaved forms passing unquestionably to the members of the preceding and the following groups.)

Var. LINEARIFOLIUS Seringe. Stems, leaves, etc. glabrous.—Seringe in DC. Prodr. ii. 371 (1825). *L. viciaciformis* Wallr. Sched. Crit. 388 (1822).—Seen by the writer only from the St. Lawrence Basin and adjacent territory, and from Eurasia. The following American plants are characteristic. QUEBEC: vicinity of Montmorenci Falls, July 14, 1905, *J. Macoun*, no. 66,818. NEW YORK: northern New York, Torr. & Gray Fl. ONTARIO: Michipicoten River, *Loring*. MINNESOTA: Willmar, Kandiyohi County, July, 1892, *W. D. Frost*.

Var. PILOSUS (Cham.) Ledeb. Similar, but stems, leaves, calyces, and pods pubescent.—Fl. Ross. i. 686 (1842). *L. pilosus* Cham. Linnaea, vi. 548 (1831).—Meadows and swamps (often brackish) or even in dry situations, Labrador to Connecticut and probably slightly southward,¹ Alaska to Oregon; also Kamchatka and eastern Siberia to Amur and Japan. The following among many eastern American specimens are characteristic. LABRADOR: sandy barrens, Blanc Sablon, July 31, 1910, *Fernald & Wiegand*, no. 3645 (the most dwarf extreme, plants only 1-1.6 dm. high, the leaflets only 1.5-2.7 cm. long). NEWFOUNDLAND: gravelly shore, Port Saunders Harbor, August 6, 1910, grassy field overlying limestone rocks, Cow Head, July 22, 1910, *Fernald & Wiegand*, nos. 3644, 3643. QUEBEC: Seven Islands, Saguenay County, August 14, 1907, *C. B. Robinson*, no. 913; alluvial soil, mouth of Port Daniel River, July 30, 1902, seashore sands,

¹ It is probable that the Long Island *L. palustris*, which the writer has not seen, belongs to this common coastal variety.

New Carlisle, July 27, 1902, mouth of Bonaventure River, July 31, 1902, *Williams & Fernald*. NOVA SCOTIA: island and intervalle-meadow, Aspy Bay, Cape Breton Island, July 10 and 25, 1909, *J. R. Churchill*; Baddeck, Cape Breton Island, July 12, 1898, *J. Macoun*; Canso, July 11 and 27, 1901, *J. Fowler*. MAINE: damp thicket near the sea, Moose Island, Passamaquoddy Bay, July 14, 1909, *Fernald*, no. 1959; Meadow, Pembroke, July 6, 1909, *Fernald*, No. 1955; in humus on rocky bank, Cutler, July 6, 1902, *Kennedy* and others. MASSACHUSETTS: Ipswich, *Wm. Oakes*; Topsfield, *C. N. S. Horner*; Cambridge, *Wm. Boott* and others; Dorchester, June 1, 1884, *J. R. Churchill*; dry open field, Polpis, Nantucket, June 3, 1900, *M. A. Day*, no. 52. RHODE ISLAND: brackish meadow, Middletown, June 19, 1903, *B. L. Robinson*.

* * * Plant comparatively slender, the wingless or slightly winged stem 0.3–1 m. high, 0.7–1.5 mm. in diameter below the lowest peduncle; the leaves with 2 or 3 pairs of ovate, elliptical or broadly lanceolate leaflets 2–4 cm. long and 6–17 mm. wide: peduncles 3–9-flowered: flowers 1–1.5 cm. long.

Var. MYRTIFOLIUS (Muhl.) Gray. Stem, leaves, etc. glabrous.—Man. ed. 2, 104 (1856). *L. myrtifolius* Muhl. in Willd. Sp. iii. 1091 (1803). *L. stipulaceus* Le Conte in Torr. Cat. Pl. N. Y. 92 (1819).—Quebec to Wisconsin, south to New Jersey, Pennsylvania, Ohio, and Indiana; and reported as occurring westward to Manitoba and south to North Carolina and Tennessee.¹ The following specimens are representative. QUEBEC: bank of St. Lawrence River below Quebec, July 9, 1905, *J. R. Churchill*. ONTARIO: Ottawa, August 10, 1894, *J. Macoun*, no. 4525. NEW YORK: swampy sandy pasture, border of Oneida Lake, Lenox, June 20, 1901, *J. V. Haberer*, no. 213; Seneca Lake, July 12, 1834, *A. Gray*; Penn Yan, *Sartwell*; Rochester, June 24, 1858, *Wm. Boott*; Niagara Falls, *Macrae*. NEW JERSEY: Bergen County, 1862, *D. C. Eaton*. OHIO: Enterprise, Erie County, July 5, 1894, *E. L. Moseley*. INDIANA: along Grand Calumet River, Miller, Lake County, June 29, 1897, *Agnes Chase*. MICHIGAN: Port Huron, July 8, 1897, *C. K. Dodge*. WISCONSIN: Milwaukee, *Lapham*.

GRAY HERBARIUM.

¹ Mr. T. G. White included in the synonymy of *L. myrtifolius* in his *Revision of the Genus Lathyrus*, *L. altaicus* Ledeb. and *L. decaphyllus*, var. *minor* Hook. & Arn. There must have been some misinterpretation in the matter, for *L. altaicus*, a plant of the Altai Mts. of Siberia, was described by Ledebour "with leaflets pubescent beneath . . . peduncles 2–4-flowered . . . legumes densely villous-pubescent"; while *L. decaphyllus*, var. *minor*, coming from California, is apparently not referable to the eastern *L. palustris*, var. *myrtifolius*.

A DAY AT CONGAMOND LAKES.

C. H. BISSELL.

ONE hot clear morning in September, Mr. R. W. Woodward and the writer took a train for Congamond, the little station near the Congamond Lakes which are entirely within the town of Southwick, Massachusetts, mostly in that curious little notch extending southward into what would naturally be Connecticut territory, and marking a relic of the boundary in colonial times. The lakes form a practically continuous strip of water, extending for about three miles in a north and south direction, and broken only by two roadways. The width is ordinarily from a quarter to a half mile, but the outlines are quite irregular. In former days the canal boats making the trip between Northampton and New Haven passed through these lakes, which supplied much of the water for the operation of the canal. The state boundary, on the east side of the notch just mentioned, follows the eastern shore of the lakes, so the land adjoining the lakes on that side for about two thirds of their length is in Connecticut, and it was this part that we planned to visit. The country here is a sandy plain, the general level of which is considerably higher than that of the lakes, and in many places this plain extends quite to the shore, forming a kind of sandy bluff. The water of the lakes is clear and blue and there is a fine view from these bluffs, westward across the lakes to the hills of Granby. The beauty of the spot is beginning to be appreciated and in some places many summer cottages fringe the edge of the wooded bluff.

Leaving the train, we followed the highway across the strip of Massachusetts, despised as far as our collecting was concerned, to the causeway, crossing which we were again on good Connecticut soil and ready for work. Turning to the right through an old pasture, we struck the lake and followed the sandy strand southward under a bluff of white and yellow sand. Along the strand were some of the sedges that delight in such a situation: *Cyperus dentatus*, mostly in the sterile form with leaves instead of scales; *Cyperus aristatus*, of which the fragrant specimens are a delight to handle in the herbarium, was occasional, while the dainty button-like tufts of *Hemicarpha* showed here and there on the sand. Before long the bluff ended and a long cove, stretching

back inland, blocked the way. Along the edge of the cove nothing of special interest appeared, but at its upper end, where it took a sharp turn and swung toward an arm of the lake, we found abundance of *Gaylussacia dumosa* — a shrub by no means common in this region — plentifully loaded with fruit. In the rather low old field or pasture, that bordered the end of the cove, was growing *Lycopodium obscurum*, var. *dendroideum*, a little of *L. clavatum*, and much more *L. clavatum*, var. *megastachyon*. A curious variant of this last named variety was found in one colony. Here, mixed in with the normal form, which has spikes borne on long peduncles, were a few individuals with spikes entirely sessile or on very short peduncles, and plants were found having all these forms on the same stem.

Leaving the cove, we turned northward and soon struck a low sand beach on an arm of the lake, where we found *Panicum philadelphicum*. As we moved on, there soon appeared not far from the lake, but not visibly connected with it, a large sphagnum bog. This of course had to be explored, though we found some parts too soft and quaking to venture on. There were the usual plants of the sphagnum bogs of this region, *Picea mariana*, *Vaccinium corymbosum* and *macrocarpon*, *Kalmia angustifolia*, *Xyris caroliniana*, and *Carex trisperma*. The presence of *Andromeda glaucophylla* showed more of a rarity and we decided that this bog should sometime be visited earlier in the season in search of other good things. Leaving the bog, we had, under the trees on the bluff overlooking the lake, the pleasant change of lunch and a little rest after the swamp work. It was so comfortable here that it required an effort to leave, but the bog had taken time and we were far from our planned destination, the state line. We started northward along the lake, passing through sandy woods that here extend to the edge of the lake, with no strand. A little pond in the woods had about its edges *Ilex laevigata* in fine fruit. We soon found a cove that had to be passed by making a circuit inland. At the head of the cove we crossed a pretty, quick-flowing brook, full of *Elodea* in fine condition and covered with flowers. It was surely late in the season for such a state of the plant. We struck out now through the sandy country, with open woods and some barren places, thinking to find the state bounds, but we spent time over a collection of *Lecheas* of which we found several species growing together, and had finally to give up hunting for the boundary stone and turn back for the homeward tramp. It was along the highway this time and in a deserted

field that had not many years before been cultivated that we found an abundance of *Gnaphalium decurrens*, also more *Lecheas*. At last we were at the causeway again, and we made our way toward the station, stopping for a bite at the little lunch room that must find scant patronage so late in the season. The twilight shadows were falling as we took the train for home, tired, dusty, with full collecting boxes, after a day with the fields, the woods, the water, the sun and the sky. A tiresome and a useless day some might say, but to the friend of the great out-of-doors, one of the days looked forward to with anticipation, looked back upon with pleasure, and that go to make up a part in one of the durable satisfactions of life.

SOUTHINGTON, CONNECTICUT.

A SCIRPUS NEW TO NEW HAMPSHIRE.—Prof. Fernald has lately identified sheet no. 466 in my herbarium as *Scirpus rubrotinctus* var. *confertus* Fernald, although non-typical. The specimen, collected by myself in wet sphagnum at Sharon, Hillsboro County, New Hampshire, 17 July, 1909, not only adds a new name to the New Hampshire list but seems to afford the first New England record for the variety outside of Maine. The proximity of Sharon to the Massachusetts line suggests that the plant may yet be found in this state.—SIDNEY F. BLAKE, Stoughton, Massachusetts.

[*Scirpus rubrotinctus*, var. *confertus* was collected at Spectacle Pond, Wallingford, Vermont, July 30, 1901 (*W. W. Eggleston*, no. 2527) and in Southington, Connecticut, June 26, 1897 (*C. H. Bissell*). These specimens, recently deposited in the Gray Herbarium, indicate that the variety may be looked for throughout New England.—Ed.]

A NECESSARY CHANGE OF NAME.—Mr. C. E. Faxon of the Arnold Arboretum has called my attention to the fact that Dr. Focke, the well-known German rubiologist, used the word *amabilis* for the name of a rubus a very short time before I used it in 1906 for a plant quite abundant in the Kennebunks and North Berwick, Maine. See RHODORA VIII, 173 (1906). In Gray's New Manual it is mentioned but it is included under *Rubus Canadensis* L. However, my blackberry is not only an elegant and very distinct species differing greatly from

that species and varying but very little which is rare in a rubus, but it deserves to be kept distinct for what is perhaps the most important reason for recording a species — it is widely distributed.

In 1909, I found it in New Brunswick at St. Stephen near Calais, Maine, at Ingleside and Great Bay near St. John, and at Moncton and Painsec Junction thus crossing the province. In Nova Scotia I collected it around Yarmouth and it was very common (for blackberries) in the Annapolis Valley — at Digby, Middleton, Bridgetown and Kentville, and occurred in two places in Pictou. I now offer for a name

Rubus amicalis nov. nom. *R. amabilis* Blanchard, RHODORA VIII, 173 (1906).— W. H. BLANCHARD, Portsmouth, New Hampshire.

A CORRECTION REGARDING PROFESSOR PENHALLOW.—In my sketch of David Pearce Penhallow in RHODORA for January, 1911, I inadvertently omitted to insert the word Agricultural after the word Amherst in the 2d line of the last paragraph on page 2. Dr. Penhallow was graduated at the Massachusetts Agricultural College, not at Amherst College, both of which institutions are in Amherst, Massachusetts.— WALTER DEANE, Cambridge, Massachusetts.

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